

## CLAIMS

1. A blood vessel catheter, comprising:

- a) a catheter tube and a bolus molded of resilient plastic;
- b) said catheter tube including a body having a cylindrical wall through which a lumen extends to a distal end of the tube;
- c) said bolus including a body having a connector section joined to said catheter tube at said distal end, a passage section and a nose section;
- d) said nose section having an unperforated, rounded bullet-nose on it;
- e) said passage section of said bolus containing an axially extending passage communicating at one end with said tube lumen and at another end with a port opening radially through the side of said bolus body;
- f) said nose section having a maximum thickness which is smaller than the outside diameter of the tube.

2. The blood vessel catheter of Claim 1 further characterized in that:

- a) said nose section has a center which is radially offset from the longitudinal axis of said bolus whereby a portion of the outer periphery of said nose section is normally substantially tangent with an imaginary cylinder containing the outer periphery of said passage section where said port opens.

3. The blood vessel catheter of Claim 1 further characterized in that:

- a) said port extends around more than 180° of the circumference of said passage section.

4. The blood vessel catheter of Claim 1 further characterized in that:

a) said bolus body includes a longitudinally extending stiffening arch formed outwardly of said passage section opposite said port.

5. The blood vessel catheter of Claim 1 further characterized in that:

5 a) said bolus body has opposite sides bracketing said port which taper radially inwardly toward the longitudinal axis of said passage section as they extend forwardly from said passage section into said nose section.

6. The blood vessel catheter of Claim 1 further characterized in that:

a) said transverse cross-section of said nose section is substantially elliptical in external shape.

7. The blood vessel catheter of Claim 1 further characterized in that:

a) said port has a trailing edge at the outer periphery of said passage section; and

b) said trailing edge is segmentally circular in cross-section.

8. The blood vessel catheter of Claim 2 further characterized in that:

20 a) said bolus body has opposite sides bracketing said port which taper radially inwardly toward the longitudinal axis of said passage section as they extend forwardly from said passage section into said nose section.

9. The blood vessel catheter of Claim 8 further characterized in that:

25 a) said port has a trailing edge at the outer periphery of said passage section;

b) said radially inward taper of said sides beginning forwardly of said trailing edge.

10. The blood vessel catheter of Claim 1 further characterized in that:

a) said tube contains a single lumen and said passage section contains a single passage.

5 11. A bolus for a blood vessel catheter, comprising:

a) a generally cylindrical body having a longitudinal axis and including a passage section and a nose section;

b) said passage section containing a port opening radially outwardly through said body, transversely of said axis;

10 c) said passage section having a portion centered on said longitudinal axis and another portion which is, with said nose section, inclined to said longitudinal axis in the same radial direction as said port.

12. The bolus of Claim 11 further characterized in that:

15 a) said nose section has an unperforated, bullet nose thereon; and

b) said nose section has an outermost extremity which, in one location, is normally substantially tangent to an imaginary cylinder containing the outermost periphery of said passage section.

13. The bolus of Claim 11 further characterized in that:

20 a) said bolus body has opposite sides bracketing said port which taper radially inwardly toward the longitudinal axis of said passage section as they extend forwardly from said passage section into said nose section.

14. The bolus of Claim 13 further characterized in that:

25 a) said nose section has an unperforated, bullet nose thereon; and

b) said nose section has an outermost extremity which, in one location, is normally substantially tangent to an imaginary cylinder containing the outermost periphery of said passage section.

15. The bolus of Claim 14 further characterized in that:

a) said bolus body includes a longitudinally extending stiffening arch formed outwardly of said passage section opposite said port.

16. A blood vessel catheter comprising:

a) a tube having a predetermined outside diameter and a distal end;

b) a bolus including a connector section, a passage section and a nose section, said connector section being connected to said distal end on a longitudinal axis of said tube and bolus;

c) said passage section containing an axially extending passage and a radially extending port which opens through the side of said bolus behind said nose section;

d) said nose section having a bullet nose and a maximum, cross-sectional diameter which is substantially less than said predetermined diameter;

e) said nose section having an axis which is offset from said longitudinal axis whereby said nose section has an external surface portion which is substantially tangent to an imaginary cylinder containing the trailing edge of said port.